NJ Pollution Prevention Planning Process

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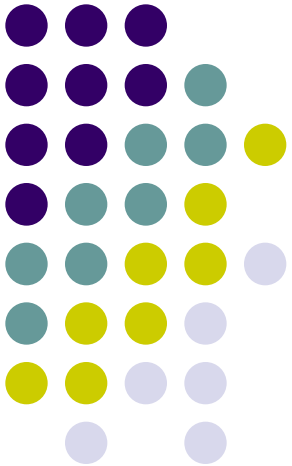
May 8, 2013



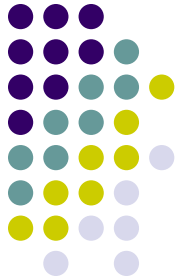
Covered Facilities

- Any “employer” (N.J.A.C. 7:1G-1.2) or any “priority industrial facility” (N.J.A.C. 7:1K-1.5) that is subject to the reporting requirements of the federal Emergency Planning and Community Right to Know Act of 1986 (EPCRA), Section 313, the Toxic Chemical Release Inventory (TRI), is subject to the preparation of a Pollution Prevention Plan and submission of a Release and Pollution Prevention Report (RPPR) and a Pollution Prevention Plan Summary.

Applicability

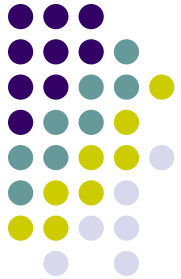
- Subject to 2 consecutive years of RPPR Reporting
- Second Reporting Year of RPPR becomes Base Year for P2 Planning
- Planning Cycle is for 5 years
- Exemption for those facilities that report Shipped as (or in) Product + NPO < 500 lbs.

Required Reports/Documents



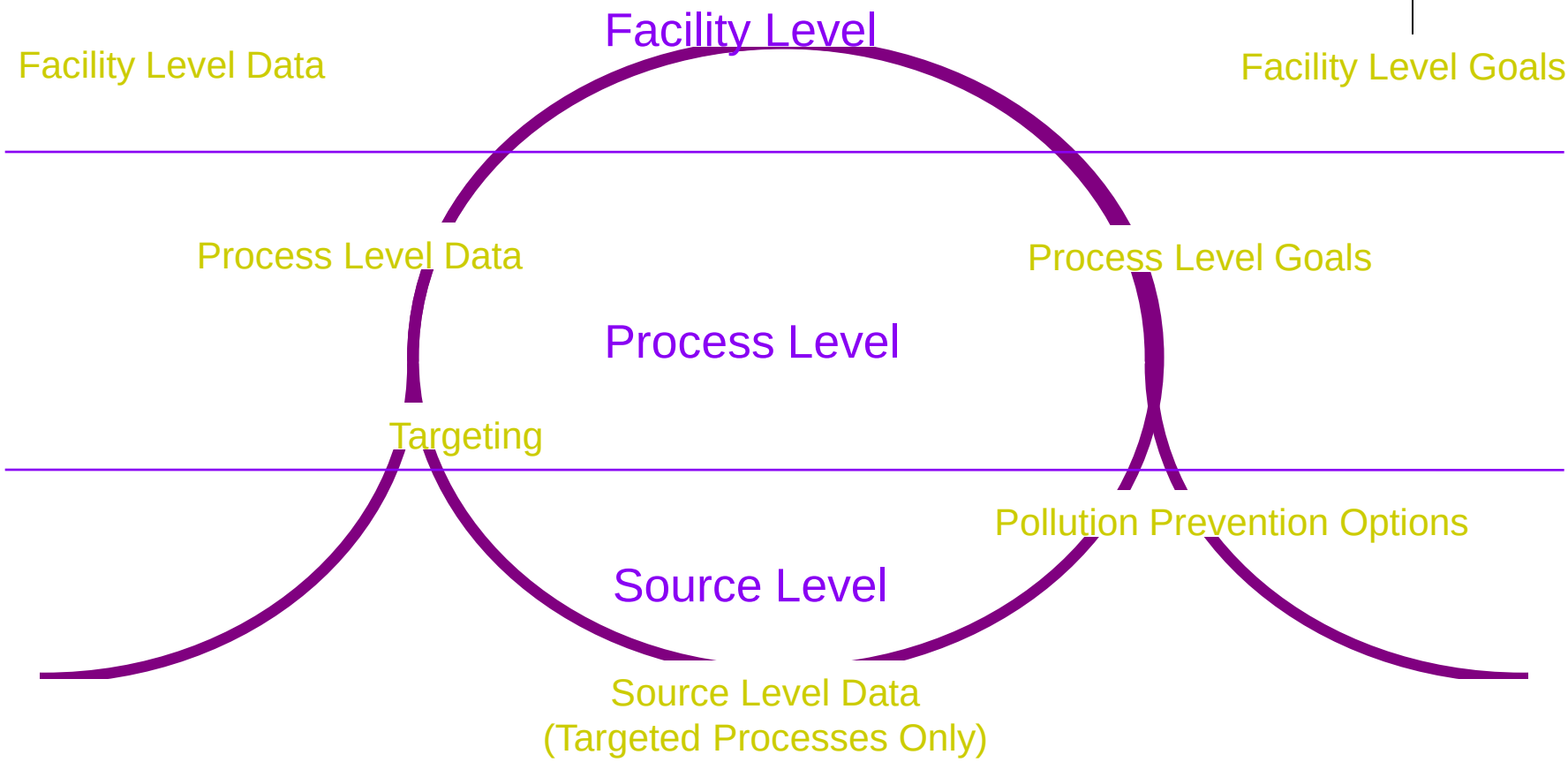
- Pollution Prevention Plan
- Pollution Prevention Plan Summary
- Pollution Prevention Plan Progress Reports

Reasons for Pollution Prevention



- **Save money –** Pollution prevention reduces the use and release of hazardous substances and is frequently more cost effective than pollution control.
- **Make your business more competitive –** Pollution prevention can increase efficiency in the use of raw materials, energy and water.
- **Avoid regulatory requirements –** Pollution prevention eliminates or reduces waste otherwise requiring treatment and disposal. Reducing waste also reduces paperwork and costs.
- **Reduces exposure to workers and consumers**
- **Environmental benefits**

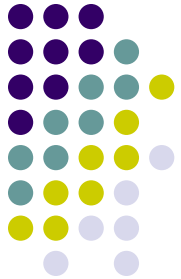
Overview of P2 Planning Process



“Table of Contents” for a Pollution Prevention Plan

- General Information
- Certification and Personnel Information
- Facility-Level Information
- Process-Level Information
- Annual Hazardous Waste Information
- Part I Cost Analysis
- Targeting
- Source-Level NPO Data
- Pollution Prevention Options
  - Identifying Options
  - Feasibility Analysis
- Pollution Prevention Goals
- Facility and Process Level Reductions

Introduction
General Information

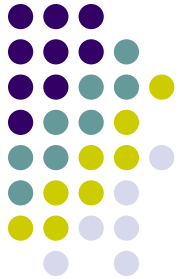


- Description of the facility, their products, and any other information pertinent to future pollution prevention planning
- A summary of any Plan revisions
- Opportunity to discuss previous P2 options implemented

Certifications

- Highest ranking corporate official with direct operating responsibility:
  - “I certify under penalty of law that I have read the Pollution Prevention Plan and that the Pollution Prevention Plan is true, accurate and complete to the best of my knowledge.”
- Highest ranking corporate official at the facility:
  - “I certify under penalty of law that I am familiar with the Pollution Prevention Plan and that it is the corporate policy of this industrial facility to achieve the goals of the Pollution Prevention Plan.”

Personnel Information
Names and Telephone Numbers

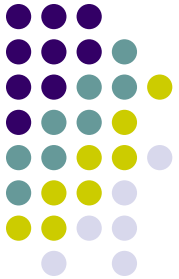


- The owner/operator of the facility
- The highest ranking corporate official at the facility
- The union representative (if applicable)

Facility-Level Information

- Release and Pollution Prevention Reports (RPPRs) satisfy this requirement if included/referenced in your Plan annually
- Annual inputs must equal outputs within 5% or less
- Name and CAS number for each covered hazardous substance

Facility-Level Information Inventory Data for Annual Inputs

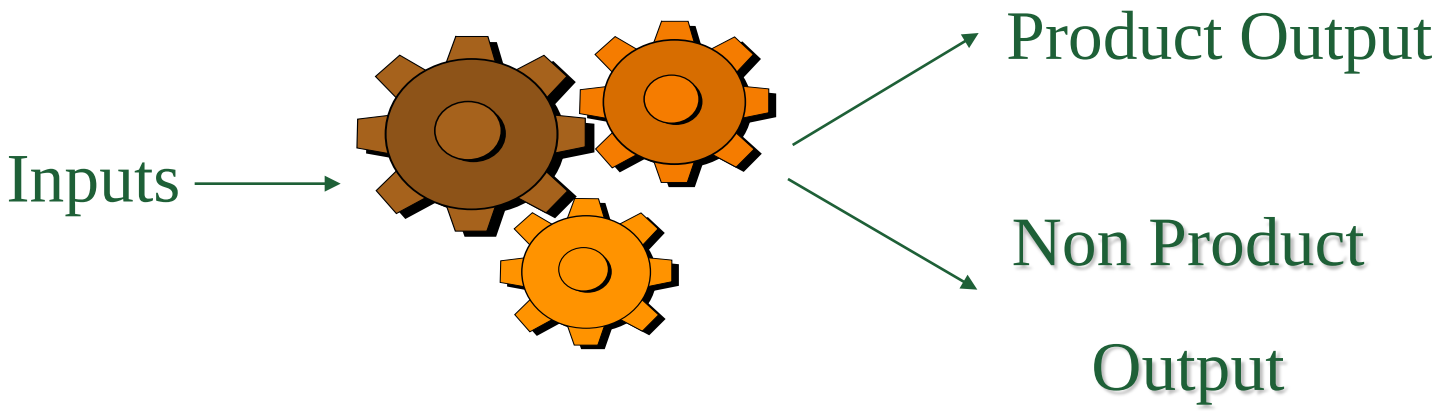


- Stored at the facility on the first day of the reporting year
- Brought into the facility
- Produced on site at the facility
- Recycled out-of-process and used as an input

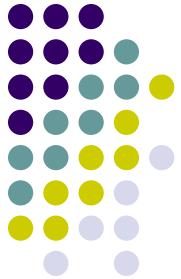
Definition of Nonproduct Output

See Definition at N.J.A.C. 7:1K-1.5

- "Nonproduct Output" or "NPO" means all hazardous substances or hazardous wastes that are generated prior to storage, out-of-process recycling, treatment, control, or disposal, and that are not intended for use as a product

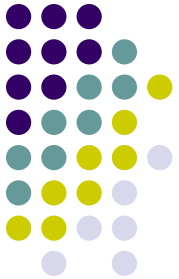


In-Process and Out-of-Process Recycling



- In-process recycling is pollution prevention
  - Reduces NPO
  - Dedicated equipment
  - Directly connected
- Out-of-process recycling is **NOT** pollution prevention
  - On-site recycling or reclamation activities that do not meet the definition of in-process recycling

Facility-Level Information Inventory Data for Annual Outputs

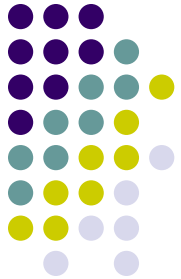


- Stored at the facility on the last day of the reporting year
- Consumed at the facility
- Shipped off-site as (or in) product
- Generated as NPO (total NPO)
- Recycled out-of-process on-site

Facility-Level Information
Annual Release Data

- Released to the air through stack and fugitive emissions
- Surface and ground water discharges to the waters of the State
- On-site land disposal
- Transferred to other off-site locations
- Released due to remedial actions, catastrophic events, or one-time events not associated with production processes

Facility-Level Information
Annual Chemical USE Calculation



- The calculation method for determining USE is to sum the amount of hazardous substances consumed, shipped off-site as (or in) product, and generated as NPO

USE = Consumed + Shipped (as/in product) + NPO

Facility-Level Summary Materials Accounting

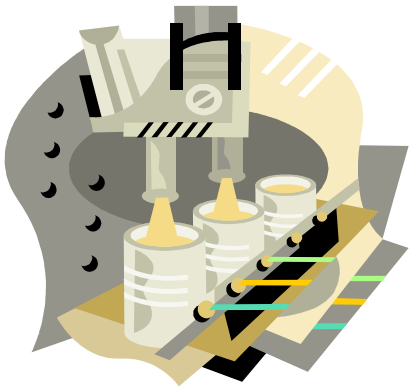
- Inputs (pounds)
  - [5] Starting inventory
  - [6] Produced onsite
  - [7] Brought onsite
  - [12] Recycled out-of-process and reused onsite

Remember: Inputs must equal outputs within 5%

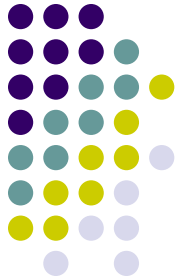
- Outputs (pounds)
  - [8] Consumed onsite
  - [9] Shipped offsite as/in product
  - [10] Ending inventory
  - [12] Recycled out-of-process and reused onsite
  - [13] Destroyed though onsite treatment
  - [14] Destroyed through onsite energy recovery
  - [15] Stack air emissions
  - [16] Fugitive air emissions
  - [17] Discharge to POTWs
  - [18] Discharge to surface waters
  - [19] Discharge to ground waters
  - [20] Onsite land disposal
  - [21] Transferred offsite

Process-Level Information

- Process ID
- Identification of product/intermediate product
- Total quantity of production
- Inclusion of P2-115



Process-Level Inventory Data

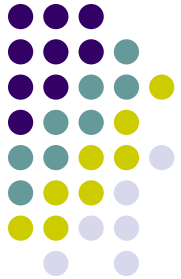


- Shipped in products/intermediate products
- Consumed at the facility
- Used
- Generated as NPO
- Released
- Recycled out-of-process both on-site and off-site

Process-Level Inventory Data

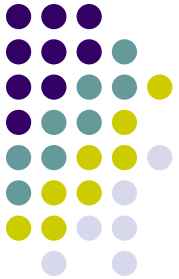
- Pollution prevention techniques used in a given year
- Whether or not a process was discontinued or sent off-site in a given year
- Whether or not a facility made a process change that triggered a Plan modification
- An explanation on whether or not a facility's pollution prevention progress for a targeted process was less than anticipated

Process Information Grouping



- Grouped process (yes or no)
- ***Description of grouping decision*** and unit for measuring production)
  - Treatment systems that use hazardous substances or generate NPO not generated elsewhere at the facility are required to be included as separate sources or production processes

POLLUTION PREVENTION PROCESS LEVEL DATA WORKSHEET (P2-115)



Use one sheet for each hazardous substance in each process

Base Year ____

Process ID (from P2 Plan Summary): _ _ _ _ _ _ _ _ _ _ _ _

Units of Production (e.g. type of widget, lbs of chemical, ft^2 of product) _____

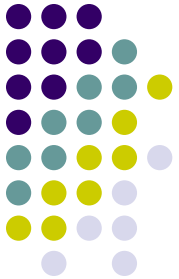
Is process targeted? (Y/N) _____ Is this a grouped process? (Y/N) _____

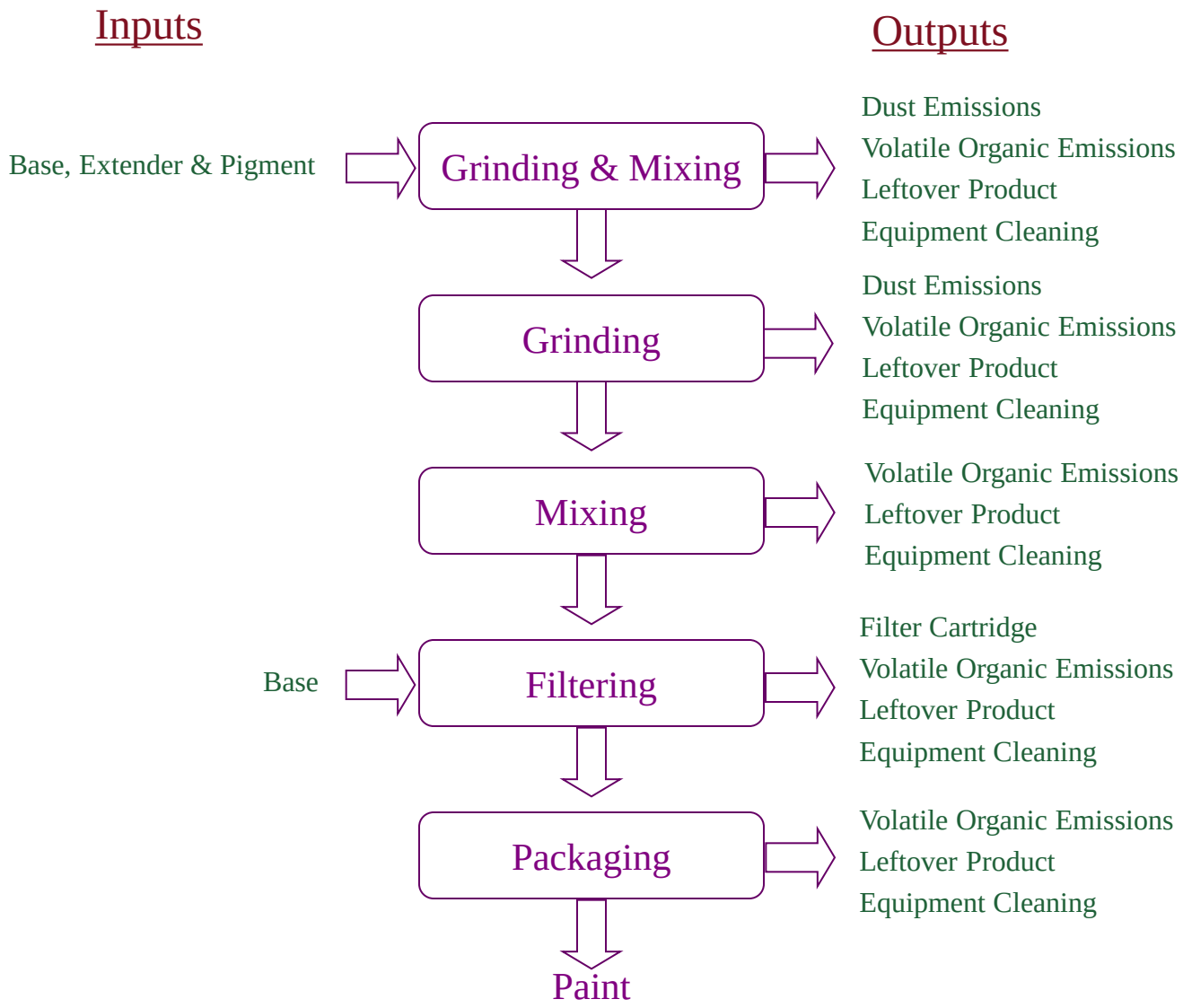
CAS NO.:_____ Hazardous Substance:_____

	Base Year	Year 1	Year 2	Year 3	Year 4	Year 5
Production quantity						
USE (pounds)						
Consumed						
Shipped off-site as (or in) product						
NPO (pounds)						
Recycled out of process						
Destroyed: On-site treatment						
Destroyed: On-site energy recovery						
Stack air emissions						
Fugitive air emissions						
Discharge to POTWs						
Discharge to groundwater						
Discharge to surface waters						
On site land disposal						
Transferred off site						
End. Inv. as NPO – Beg. Inv. as NPO						
P2 techniques used in given year (see code in Appendix F)						
Was this process discontinued or sent off site in given year? (Y/N)						
Did facility make process change(s) that triggered Plan modification? (Y/N)						
Was facility's P2 progress (targeted process only) less than anticipated? (Y/N) (Attach explanation.)						

Process Flow Diagram

(Process Flow Diagram for a Paint Formulation Process)





Annual Hazardous Waste Data
Facility-Level Data

- Amount generated
- Amount treated out-of-process
- Amount stored out-of-process
- Amount disposed out-of-process
- Address of treatment, storage, or disposal facilities (TSDs)
- Description of treatment at each TSD
- Amounts recycled on/off site
- Pounds of each hazardous waste generated at each production process

Cost Data

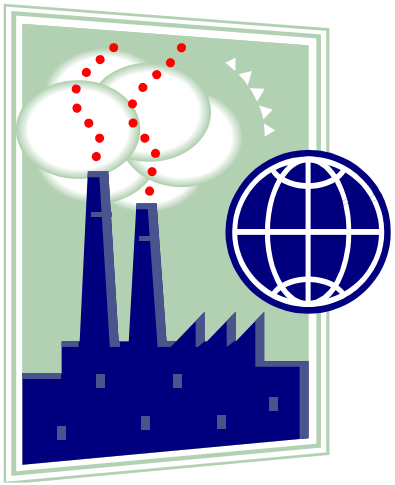
- Storage and handling
- Monitoring, tracking, and reporting
- Treatment
- Transportation and disposal
- Manifest and labeling
- Permit fees
- Liability insurance
- Safety and health compliance
- Raw material costs

Targeting

- All processes
- Process(es) that contribute 90% based on:
  - 1 - **USE** of hazardous substances
  - 2 - **NPO** generated
  - 3 - **RELEASE** of hazardous substances
- Must target all processes or sources that use or generate PBTs above threshold

Part II of a Pollution Prevention Plan

- Identify specific pollution prevention methods
  - Analyze methods the facility intends to adopt
  - Set personalized five year pollution prevention goals



Estimate Source-Level NPO

- The annual quantity of each hazardous substance generated as NPO (in pounds) at each targeted production process

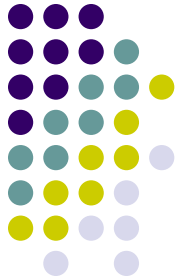
What is a Source?

- A source is the point in the process where NPO leaves the production process
  - Water discharges prior to treatment
  - Waste generation prior to treatment
  - Air emissions prior to treatment

Example Source-Level NPO
(Based on Example Process Flow Diagram)

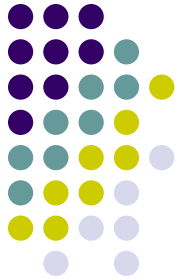
Process Step	Source Identification	Quantity Generated (lbs)
Grinding and Mixing	Discarded raw materials containers	
	Dust emissions	
	Volatile organic emissions	
	Leftover product	
	Equipment cleaning	
Grinding	Dust emissions	
	Volatile organic emissions	
	Leftover product	
	Equipment cleaning	
Mixing	Volatile organic emissions	
	Leftover product	
	Equipment cleaning	
Filtering	Filter cartridge	
	Volatile organic emissions	
	Leftover product	
	Equipment cleaning	
Packaging	Volatile organic emissions	
	Leftover product	
	Equipment cleaning	

Identifying Pollution Prevention Options



- Identify pollution prevention options that reduce the USE and generation of NPO of hazardous substances

What is Pollution Prevention?

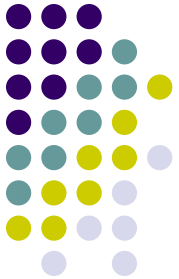


- Input substitution
- Product reformulation
- Production process modification
- In-process recycling
- Improved operation and maintenance

What is NOT Pollution Prevention?

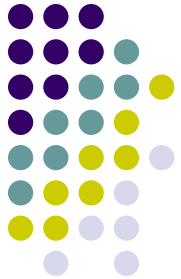
- Treatment systems
- Control systems
- Substituting one hazardous substance for another hazardous substance
- Shifting risks from one media to another media
- Out-of-process recycling

Feasibility Analysis of Options



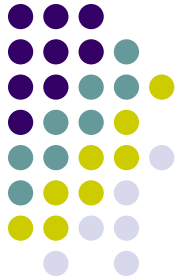
- Technical analysis
- Financial analysis
  - Storage and handling
  - Monitoring, tracking, and reporting
  - Treatment
  - Transportation and disposal
  - Manifest and labeling
  - Permit fees
  - Liability insurance
  - Safety and health compliance
  - Raw material costs
- Impact on releases to air, water and waste
- Rationale for not implementing options

5-Year Goals for USE and NPO Reductions



- Anticipated reduction in USE and NPO in pounds
- Anticipated reduction in USE and NPO reported as a percent
- Anticipated reduction in USE and NPO per unit of product for targeted processes
- Start and completion dates for implementing P2 options
- Reported on P2 Plan Summary

Pollution Prevention Progress Report

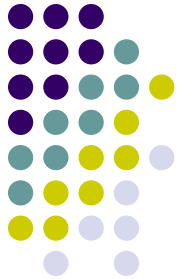


- Publicly available
- Reported annually after submission of Pollution Prevention Plan Summary
- Progress toward USE and NPO reduction goals
- **Option 1**: P2-115
  - Percent progress automatically calculated from process level data
- **Option 2**: Sections C and D of the RPPR
  - Percent progress calculated prior to electronic entry
  - Confidentially of data

Option 1 - P2-115

- One worksheet for each substance in each process (targeted and untargeted)
- Data entered:
  - Production quantity and units of product
  - USE categories (consumed, shipped, NPO)
  - NPO categories (same as RPPR Section B)
  - Specific questions (pollution prevention techniques, etc.)
- Percent progress (reductions per unit of product) facility-level and targeted process-level automatically calculated

Option 2 - RPPR Sections C and D

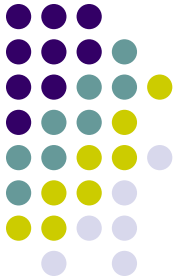


- Submission of P2-115 exempts the facility from preparation and submission of Sections C and D of the RPPR
- http://www.nj.gov/dep/opppc/forms/rpprinstruc08.pdf
- Facility-level (Section C)
  - Calculations of change in USE and NPO (in pounds and percent) compared to the Base Year
- Targeted Production Processes (Section D)
  - Calculations of change in USE and NPO per unit of product compared to the Base Year

Additional Resources

- You may contact the Office of Pollution Prevention and Right to Know at (609) 292-6714 or (609) 777-0518.
- Bill, Laura, Fu, or Andy
- Or Visit our website: http://www.nj.gov/dep/opppc

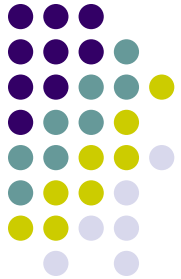
Additional Resources (continued)



- The Pollution Prevention Resource Exchange (P2Rx™) http://www.p2rx.org/ is a consortium of eight regional pollution prevention information centers. These centers all provide pollution prevention information, networking opportunities, and other services to States, local governments, and technical assistance providers in their region. The centers represent a broad constituency, which contributes to an overall breadth of P2 information and opportunities.

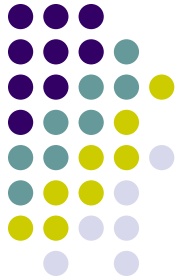
- The Toxics Use Reduction Institute (TURI) http://www.turi.org/home helps Massachusetts companies and communities find innovative, cost effective ways to reduce toxic chemical use at the source, rather than treat wastes once produced.

Additional Resources (continued)



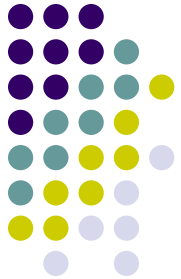
- The National Pollution Prevention Roundtable http://www.p2.org/ is the largest membership organization in the United States devoted solely to pollution prevention. The mission of the Roundtable is to provide a national forum for promoting the development, implementation, and evaluation of efforts to avoid, eliminate, or reduce pollution at the source.

Additional Resources (continued)



- As a part of P2Rx, Northeast Waste Management Officials' Association (NEWMOA) http://www.newmoa.org/ contains searchable databases of regional pollution prevention, solid waste, and waste site cleanup information. In addition, a rapid response service, subject specific resource guides or Hubs, and up-to-date information on NEWMOA workgroup activities are available.

- Waste Reduction Resource Center (WRRC) http://wrrc.p2pays.org/ is a member of the Pollution Prevention Resource Exchange (P2Rx) network of regional centers. WRRC provides pollution prevention technical support to the states in EPA Regions III and IV.



Questions ?